

Chapter 1

INTRODUCTION

The Lower West Coast (LWC) is one of four regional planning areas in the South Florida Water Management District. The LWC Planning Area covers approximately 4,300 square miles and includes all of Lee County, most of Collier and Hendry counties, and portions of Charlotte, Glades, and Monroe counties (**Figure 1**). The boundaries of the LWC Planning Area generally reflect the drainage patterns of the Caloosahatchee River Basin and the Big Cypress Swamp. The northern boundary generally corresponds to the drainage divide of the Caloosahatchee River, which is also the SFWMD/SWFWMD jurisdictional boundary in Charlotte County. The eastern boundary delineates the divide between the Big Cypress Swamp and the Everglades hydrologic system. The area east of this divide is in the Lower East Coast Planning Area. Land use within the LWC Planning Area is predominantly wetland, especially in the Charlotte, Collier, and Lee county areas. Collier County has the largest percentage and acres of wetlands, while Lee County contains the most urban land use. Urban land use is primarily located in the coastal portions of Lee and Collier counties. The highest percentages of agriculture are found in Hendry and Glades counties. Irrigated crops in these areas consist of citrus, sugarcane, vegetables, sod, and greenhouse/nursery.

The LWC Planning Area faces numerous challenges in maintaining adequate water supply for growing urban and agricultural demands while meeting the needs of the environment. The LWC Planning Area is expected to experience substantial growth between now and the year 2020. The region's population is expected to increase by 68 percent from 590,939 to 992,805, with urban expansion occurring mostly in the coastal areas. Urban water demand is projected to increase 79 percent by 2020, recreation demands will be the largest category of use with 29 percent of total urban demands. Agricultural water demand is projected to increase by 11 percent through the planning horizon, with the largest growth (25 percent) occurring in citrus acreage. The total average water demand is projected to increase by 28 percent, from 312,954 to 401,548 million gallons per year (MGD).

The planning time frame for this water supply plan is 1995 through 2020. Updates of this plan are required at least every five years. A water supply plan for the LWC Planning Area was completed in 1994. This plan had a planning horizon of 2010; however, with a decrease in the rate of growth of this area in the 1990's, the 2010 demands in the 1994 LWC Water Supply Plan are similar to those currently projected for 2020. The 1994 LWC Water Supply Plan concluded that sources of water used historically will not be sufficient to meet the projected demands due to potential saltwater intrusion and harm to wetlands, and that diversification of water supply sources is necessary to meet the future needs of this area. The Districtwide Water Supply Assessment (DWSA) follows the conclusions found in the 1994 LWC Water Supply Plan. Suggested alternatives were aquifer storage and recovery (ASR), reclaimed water and reverse osmosis of the Floridan aquifer.

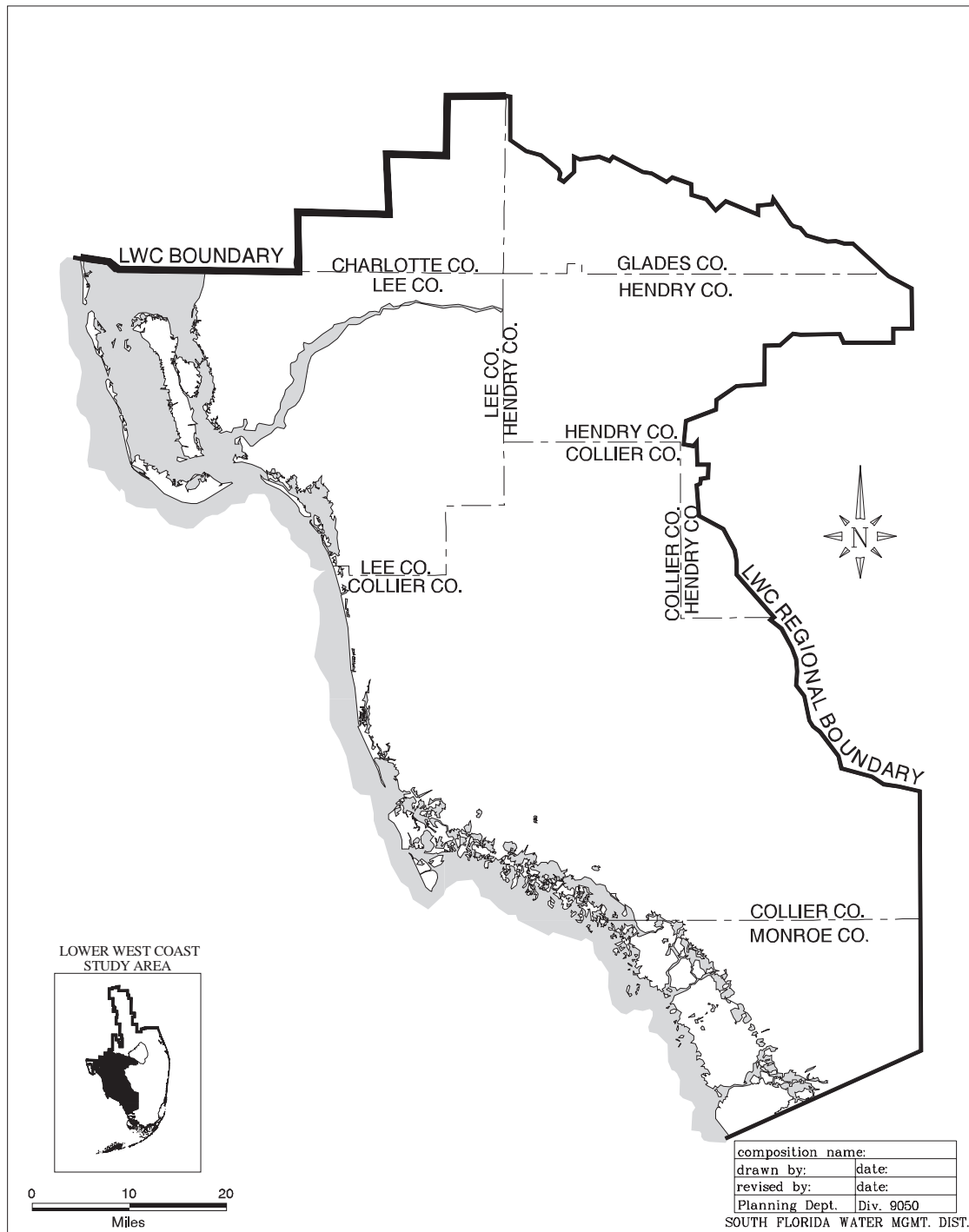


Figure 1. Lower West Coast Planning Area.

PURPOSE

The purpose of the LWC Water Supply Plan is to provide a framework for future water use decisions regarding adequate water supply for urban areas, agriculture, and the environment through 2020. The LWC Water Supply Plan estimates the future water supply needs of urban areas and agriculture, weighs those demands against historically used water sources, and identifies areas where demands cannot be met without potentially harming the resource and environment, including wetlands. The LWC Water Supply Plan evaluates the potential of various alternative water source options to address unmet demands and makes recommendations for their development.

An important part of the planning process was the identification of constraints to water supply and exploring opportunities to maximize the reasonable and beneficial use of the resource. This process involved extensive public input from the Lower West Coast Water Supply Plan Advisory Committee, whose members represent a variety of disciplines and interests, such as local governments, public water supply utilities, environmental interests, and agriculture, in addition to the general public.

Water management in South Florida is multifunctional, reflecting the District's four main areas of responsibility: water supply, flood protection, water quality, and natural systems management. Due to the interrelationships of these areas of responsibility, the LWC Water Supply Plan was coordinated with other planning efforts in the region such as the Caloosahatchee Water Management Plan and the development of minimum flows and levels (MFL) criteria (Chapter 2). This comprehensive, coordinated approach, combined with extensive public input throughout the planning process, ensures that solutions are balanced and considers all aspects of water management.

BASIS OF WATER SUPPLY PLANNING

The Florida Legislature has delegated authority to the District to protect South Florida's water supply by managing use to meet the future demand. The District has undertaken a water supply planning initiative to ensure prudent management of South Florida's water resources. This initiative began with the development of a District Water Supply Policy Document (1991), and continued with the District Water Management Plan (1995), District Water Supply Assessment (1998), and regional water supply plans (on going). The District's water supply planning functions are guided by the directives and policies embodied in the District's Water Supply Policy Document (SFWMD, 1991), Water Resource Implementation Rule (Chapter 62-40, F.A.C.), Chapter 373, F.S., the State Comprehensive Plan (Chapter 187, F.S.), and delegation of authority from the Florida Department of Environmental Protection (FDEP). In addition, the plan must meet the requirements of the 1996 Governor's Executive Order (96-297) and the 1997 legislative water supply amendments to Chapter 373, F.S. Legal authority and requirements, including new legislation, is outlined below and further described in Chapter 1 of the Support Document.

Regional water supply plans are to include:

- A twenty-year planning horizon
- A quantification of the water supply needs
- A list of water source options for water supply development which will exceed the identified needs
- For each water source option, the estimated amount of water available and the estimated costs
- A list of water supply development projects that meet the criteria in Section 373.0831(4)
- A list of those water resource development projects that support water supply development
- For each water resource development project listed:
 1. An estimate of the amount of water to become available
 2. The timetable and the estimated costs
 3. Sources of funding and funding needs
 4. Who will implement the project and how it will be implemented
- A funding strategy
- Consideration of how the options serve the public interest or save overall costs
- Technical data and information
- Minimum flows and levels and associated recovery and prevention strategies established within the planning region (Section 373.0361)

PLAN VISION, GOAL, AND OBJECTIVES

A critical component in the development of the LWC Water Supply Plan was the establishment of the plan's vision, goals, and objectives.

Plan Vision

The LWC Water Supply Plan Advisory Committee adopted the State's water resource goal in the State Comprehensive Plan as the vision for the LWC Water Supply Plan:

Florida shall assure the availability of an adequate supply of water for all competing uses deemed reasonable and beneficial and shall maintain the functions of natural systems and the overall present level of surface and ground water quality. Florida shall improve and restore the quality of waters not presently meeting water quality standards.

Plan Goal

The advisory committee developed the following goal for the LWC Water Supply Plan specific to this region:

Identify sufficient sources of water and funding to meet the needs of all reasonable-beneficial uses within the LWC Planning Area through the year 2020 during a drought event that has the probability of occurring no more frequently than once every ten years, while sustaining the water resources and related natural systems.

Plan Objectives

To ensure that the LWC Water Supply Plan addresses the specific needs of the region, the advisory committee developed the following objectives (no implied priority):

Objective 1. Water Sources: Identify and ensure sustainable and efficient use of water resources sufficient to meet future demands

Objective 2. Natural Systems Protection: Protect natural resources from harm due to water use

Objective 3. Level of Certainty: Establish a 1-in-10 level of certainty for all existing and proposed legal water uses and the environment

Objective 4. Compatibility with Local Governments: Promote compatibility and linkage between the Lower West Coast Water Supply Plan and local land use decisions and policies

Objective 5. Linkage with Other Regional Plan Efforts: Promote compatibility and integration with other related regional water resource planning efforts

Objective 6. Conservation of Water Supplies: Promote water conservation and efficient use of water resources.

Objective 7. Water Supply Needs: Meet existing and future water supply demands for all reasonable-beneficial uses for the appropriate level of certainty

Objective 8. Funding: Identify adequate sources of funding to support water resource development and water supply development to meet the water supply needs of the Lower West Coast Region through the year 2020

Objective 9. Water Resource Protection: Protect water resources from harm due to water use

These objectives captured the key issues and concerns in the LWC Planning Area and provided direction for the planning process.

